

REMARKS

The Office Action of June 8, 2010, has been received and reviewed. Further to the Notice of Appeal filed November 29, 2010, and in conjunction with the Request for Continued Examination filed herewith (withdrawing the application from appeal and reopening prosecution as per 35 C.F.R. § 114(d) and MPEP §1215.01), the claims are to be amended as previously set forth. New claim 24 is presented herein. Basis for new claims 24 and 25 can be found throughout the Specification and more specifically in original claims 1 and 5. The subject matter of these claim was indicated to be allowable in the Office Action of June 8, 2010, at page 6. All amendments are made without prejudice or disclaimer. No new matter has been presented. Reconsideration is respectfully requested.

35 U.S.C. § 102(b)

Claims 1, 2, 6, 10, and 20 stand rejected under 35 U.S.C. § 102(b) as assertedly being anticipated by Watanabe *et al.* (U.S. 4,738,852) (hereinafter “Watanabe”) as evidenced by Morrison (Feeds and Feeding, 1957). Applicant traverses the rejections as hereinafter set forth.

Unless a single prior art reference describes “all of the limitations claimed” and “all of the limitations [are] arranged or combined in the same way as recited in the claim, it cannot be said to prove prior invention of the thing claimed and, thus, cannot anticipate under 35 U.S.C. § 102.” *Net MoneyIN Inc. v. VeriSign Inc.*, No. 07-1565, slip op. at 17-18 (Fed. Cir. Oct. 20, 2008). A single prior art reference must “clearly and unequivocally” describe the claimed invention “without any need for picking, choosing, and combining various disclosures not directly related to each other by the teachings of the cited reference.” *Id.* at 19 (citing *In re Arkley*, 455 F.2d 586, 587 (C.C.P.A. 1972)). Applicant respectfully asserts that claims 1, 2, 6, 10, and 20 cannot be anticipated by Watanabe as Watanabe does not describe “all of the limitations claimed.”

The Office asserts that Example 3 of Watanabe anticipates independent claims 1 and 10. Applicant submits that Watanabe cannot anticipate independent claims 1 and 10 as Watanabe does not describe “a daily dosage of more than 200 mg arginine per kg body weight” as recited by independent claims 1 and 10.

Example 3 of Watanabe describes that “twenty sows (large whight, second delivery) were fed a diet comprising 1.07% arginine according to the experimental procedure of Example 1. In Example 1, Watanabe describes that the sows were fed “2.5 kg/day as a basal feeding and 0.4 kg/day/pig as an additional feeding” “from 1 week before the delivery (or parturition)” and during lactation. Thus, the sows were fed 2.9 kg/day of the diet. The total arginine fed the individual sows may be calculated as 0.0107 (the % arginine in the feed) \times 2900g (the total amount fed) = 31.03 g/day of arginine.

As evidenced by Schenkel *et al.*, Patterson *et al.*, and Johnston (provided herewith), the average weight of a sow at farrowing (birth) is 206.4 kg (Schenkel *et al.* at table 1), 219.5 kg (Patterson *et al.* at Table 4 (wherein Parity 2 is the weight of the sow at farrowing of the second litter (Example 3 of Watanabe uses sows at second parituiton))), or 350-400 kg (Johnston at table 3 (again Parity 2+ is the weight of the sow at farrowing of a second or subsequent litter (Example 3 of Watanabe uses sows at second parituiton))). Using the smallest of these weights (206.4 kg (which may in fact be the weight at first farrowing and not second farrowing as in Example 3 of Watanabe)), the feeding described by Watanbe would have provided 31.03g of arginine to a 206.4 kg sow, yielding $(31.03 / 206.4 = 0.150 \text{ g/kg})$ 150 mg arginine / kg of sow.

Consequently, Watanabe cannot anticipate independent claims 1 and 10 as Watanabe does not describe “a daily dosage of more than 200 mg arginine per kg body weight” as recited by independent claims 1 and 10.

For at least the foregoing reasons, applicant requests the withdrawal of the rejections of independent claims 1 and 10, and the claims dependent therefrom (claims 2, 6, and 20), under 35 U.S.C. § 102(b) and reconsideration of same.

35 U.S.C. 103(a)

Watanabe in view of Laspuir

Claims 1-3, 6-10, 20, and 21 stand rejected under 35 U.S.C. § 103(a) as assertedly being obvious over Watanabe in view of Laspuir *et al.* (Livestock Production Science, 70 (2001) 159-165) (hereinafter “Laspuir”). The Office asserts that “it would have been obvious to one of

ordinary skill in the art at the time the invention was made to include at least the required amounts of amino acids, with the addition of high levels of arginine as taught by Laspiur to increase nutrient utilization.” Office Action of June 8, 2010, at page 4. Applicant traverses the rejections as hereinafter set forth.

To establish a *prima facie* case of obviousness, the prior art itself or “the inferences and creative steps that a person of ordinary skill in the art would [have] employ[ed]” at the time of the invention are to have taught or suggested the claim elements. Additionally, the Examiner must determine whether there is “an apparent reason to combine the known elements in the fashion claimed by the patent at issue.” *KSR Int’l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1740-1741, 167 L.Ed.2d 705, 75 USLW 4289, 82 U.S.P.Q.2d 1385 (2007). Further, rejections on obviousness grounds “cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *Id* at 1741, quoting *In re Kahn*, 441, F.3d 977, 988 (Fed. Cir. 2006). “Often, it will be necessary for a [fact finder] to look to interrelated teachings of multiple patents; the effects of demands known to the design community or present in the marketplace; and the background knowledge possessed by a person having ordinary skill in the art, all in order to determine whether there was an apparent reason to combine the known elements in the fashion claimed To facilitate review, this analysis should be made explicit.” *Id*.

Teachings of Laspiur to One of Ordinary Skill in the Art at the Time of the Invention

Applicant notes that Laspiur teaches that the high dose of arginine described therein reduced weight loss and increased sow feed efficiency at high temperatures, but resulted in less litter growth. Laspiur at abstract. Further, as is apparent from Table 3 and Fig. 1 of Laspiur, the medium dose of arginine combined most of the benefit of the high dose of arginine and had other advantages, including a lack of weight loss as thermoneutral temperatures. Thus, one of ordinary skill in the art, upon reviewing the teachings of Laspiur, would conclude that the best arginine concentration to use to maintain the health of the sow and promote the growth of the litter is the medium dosage of 1.34% arginine.

The combination 1.34% arginine (as concluded from Laspiur) with the protocol of

Watanabe (described *supra*), would lead to a total arginine fed the individual sows which may be calculated as 0.0134 (the % arginine in the feed) \times 2900g (the total amount fed) = 38.86 g/day of arginine,

Using the smallest of these weights described *supra* (206.4 kg (which may in fact be the weight at first farrowing and not second farrowing as in Example 3 of Watanabe)), the feeding described by Watanabe would have provided 38.86 g of arginine to a 206.4 kg sow, yielding $(38.86 / 206.4 = 0.1883$ g/kg) 188.3 mg arginine / kg of sow. Consequently, the combination of Watanabe and Laspuir cannot anticipate independent claims 1, 10, and 21 as the combination does not describe “a daily dosage of more than 200 mg arginine per kg body weight” as recited by independent claims 1, 10, and 21.

The Combination of Watanabe and Laspuir Does Not Teach All the Elements of Independent Claims 1, 10, and 21

Applicant notes that Laspuir, in the abstract, teaches that, at the highest dose, arginine should be supplied at a ratio of $1.8:1$ arginine:lysine. Applying this teaching to Example 3 of Watanabe results in a arginine concentration in the diet of 1.8×0.66 (the lysine concentration in Example 3) = 1.188% arginine.

The combination 1.188% arginine (as derived from using the arginine:lysine ratio of Laspuir) with the protocol of Watanabe (described *supra*), would lead to a total arginine fed the individual sows which may be calculated as 0.0118 (the % arginine in the feed) \times 2900g (the total amount fed) = 34.22 g/day of arginine.

Using the smallest of these weights described *supra* (206.4 kg (which may in fact be the weight at first farrowing and not second farrowing as in Example 3 of Watanabe)), the feeding described by Watanabe would have provided 34.22 g of arginine to a 206.4 kg sow, yielding $(34.22 / 206.4)$ 0.13658 g/kg or 165.8 mg arginine / kg of sow. Consequently, the combination of Watanabe and Laspuir cannot anticipate independent claims 1, 10, and 21 as the combination does not describe “a daily dosage of more than 200 mg arginine per kg body weight” as recited by independent claims 1, 10, and 21.

In view of at least the foregoing, applicant requests the withdrawal of the rejections of claims 1, 10, and 21, as well as the claims dependent therefrom (claims 2, 3, 6-9, and 20) under 35 U.S.C. § 103(a) and reconsideration of same.

Kuroki and Mahan in view of Chang or Bolla

Claims 1-3, 5-10, 20 and 21 stand rejected under 35 U.S.C. § 103(a) as assertedly being obvious over Kuroki (JP 58-043725) and Mahan (2001) in view of Chang (U.S. 7,087,261) or Bolla (U.S. 6,737,262) (collectively hereinafter “the references”). Applicant traverses the rejections as hereinafter set forth.

One of Ordinary Skill in the Art Would Not Modify Koruki to Add 10kg of Corn

The Office asserts that corn (Chang) and soybean meal (Mahan) would be fed to the cows of Kuroki along with the high lysine and arginine and that “this combination, with about 10 kg of corn, would be within the instant ratios and ranges as instantly claimed.” Office Action of June 8, 2010, at page 5. Applicant respectfully disagrees.

The Office has pointed to no portion of Kuroki that indicates that anything other than the specific diet of Kuroki is being fed to the cattle. Further, Koruki provides no details of the diet other than that the “dense feed” contains more than 10g of arginine, more than 5g of lysine, has about 3500 Kcal of consumable energy and about 150 g or more of consumable protein. Koruki translation at page 1. In addition, Koruki provides no indication that anything other than the diet of Koruki was being fed to the animals: to wit “For 7-10 days immediately after the estrus and before the scheduled copulation, the crude feed was fed to the female cow which has no experience of breeding in the past, and subsequently, the dense feed was fed for 10-14 days.” Koruki translation at page 3. Thus, Koruki provides no reason for a person of ordinary skill in the art to believe that anything other than the crude feed or the dense feed was being fed to the animals.

The Office’s assertion that the instant claims would be met by including in the diet of Koruki 10 kg of corn contradicts the teachings of Koruki. Koruki specifically states that the

“dense feed” provides about 3500 Kcal of consumable energy. The 10 kg of corn suggested by the Office to meet the requirements of the present claims contains at least 34210 Kcal of consumable energy – almost 10 fold the amount energy in the diet of Koruki (the amount of energy in corn was calculated using the energy value for yellow corn presented in the table in column 11 of Chang; $10\text{kg} = 22 \text{ pounds}$ and $22 \text{ lbs} \times 1555 \text{ Kcal/lb} = 34210 \text{ Kcal}$. Thus, there would have been no motivation to include the 10kg of corn required to the diet of Koruki to meet the instant claims as Koruki teaches that the diet be limited to about 3500 Kcal. Further, the Office has pointed to no teachings in Mahan or Bolla that would remedy this deficiency in the combination of Chang and Koruki.

There is No Motivation to Add Additional Arginine to the Supplements of Bolla

The Office asserts, at pages 5 and 6 of the Office Action of June 8, 2010, that “the addition of arginine to the cow supplements of Bolla would have been motivated as a means to control gender.” Applicant respectfully disagrees. As noted *supra*, Koruki teaches that at least 10g of arginine and 5g of lysine be in the feed. Referring to Table 4 of Bolla, applicant notes that at least 57.1g of arginine are to be already supplied to the cow each day, which is substantially greater than the 10g called for by Koruki. Thus, there is no motivation to add additional arginine to the diet to reach the teachings of Koruki. Instead, one of ordinary skill in the art at the time of the invention would have been motivated to lower the overall calorie content of the feed, thereby moving closer to the diet described by Koruki. Further, the Office has pointed to no teachings in Mahan or Chang that would remedy this deficiency in the combination of Bolla and Koruki.

The Combination of the References Does Not Teach All the Claim Elements

In addition, if one were to follow the requirements set forth in Table 4 of Bolla, the instant claims would not be reached. Feeding 57.1 grams of arginine to a 318 kg cow results in 180 mg of arginine per kg of cow, which is well below “a daily dosage of more than 200 mg arginine per kg body weight” as recited by independent claims 1, 10, and 21. In addition, as noted *supra*, this amount of arginine satisfies the 10g requirement taught by Koruki. Further, the Office has pointed to no teachings in Mahan or Chang that would remedy this deficiency in the

combination of Bolla and Koruki.

For at least the foregoing reasons, applicant requests the withdrawal of the rejections of independent claims 1, 10, and 21, and the claims which depend therefrom (claims 2, 3, 5-9, and 20) and reconsideration of the same.

Rejoinder

Applicant respectfully requests rejoinder of claims 11, 13-19, 22, and 23. If an applicant elects claims direct to a product, and a product claim is subsequently found allowable, withdrawn process claims which depend from or otherwise include all elements of the allowable product claim will be rejoined. M.P.E.P. § 821.04; *see also In re Ochiai*, 71 F.3d 1565 (Fed. Cir. 1995); *In re Brouwer*, 77 F.3d 422 (Fed. Cir. 1996). Applicant notes that a claim directed to a product (claim 1) was previously elected by the applicant. Applicant submits that claim 1 is in condition for allowance. As such, applicant requests the rejoinder of claims 11, 13-19, 22, and 23 which each depend from or otherwise include all the elements of allowable product claim 1.

CONCLUSION

In light of the above amendments and remarks, applicant respectfully requests reconsideration of the application. If questions remain after consideration of the foregoing, or if the Office should determine that there are additional issues which might be resolved by a telephone conference, the Office is kindly requested to contact applicant's attorney at the address or telephone number given herein.

Serial No. 10/763,815

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Daniel J. Morath', with a horizontal line extending from the end of the signature.

Daniel J. Morath, Ph.D.
Registration No. 55,896
Attorney for Applicant
TRASKBRITT, P.C.
P.O. Box 2550
Salt Lake City, Utah 84110-2550
Telephone: 801-532-1922

Date: January 28, 2011

Enclosures: Request for Continued Examination
Supplemental Information Disclosure Statement